

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-6. (Canceled)

7. (Currently Amended) A transmission apparatus comprising:
a first main gear rotationally attached to a support and capable of being driven by
a first drive;

a second main gear being coaxial to the first main gear coaxially and rotationally
attached to the first main gear, the second main gear geared to a roller drive gear and ~~capable of~~
being driven by a second drive;

a linear drive in which an elongated device ~~may be~~ is engaged along an axis of
rotation of the elongated device, the linear drive coupled to the first main gear, ~~such that~~ when
the first main gear is rotated, the elongated device is rotated about the elongated device's axis of
rotation, the linear drive being geared to the roller drive gear, ~~such that~~ when the second main
gear is rotated the linear drive imparts linear motion to the elongated device.

8. (Original) The apparatus of claim 7, wherein the first drive and the second drive
transmit power to the first main gear and the second main gear respectively via drive screws.

9. (Original) The apparatus of claim 7, wherein the first drive and the second drive
are motors.

10. (Original) The apparatus of claim 7, wherein the first main gear and the second
main gear are each provided with a slot to enable lateral insertion or removal of the elongated
device.

11. (Previously Presented) The apparatus of claim 10, further comprising a position
sensor configured to allow automated alignment of the slots for insertion or removal of the
elongated device.

12. (Original) The apparatus of claim 7, wherein the linear drive comprises two geared rollers that are geared to the second main gear.

13. (Original) The apparatus of claim 12, wherein the two geared rollers resiliently grip the elongated device, and may be separated in order to insert or remove the elongated device.

14. (Original) The apparatus of claim 7, wherein a first position sensor measures the position of the first drive and a second position sensor measures the position of the second drive, whereby an open control loop can be applied to the operation of the first and second drives.

15. (Original) The apparatus of claim 13, wherein the two geared rollers are connected to a linear position sensor, whereby the actual movement of the elongated device is measured, whereby a closed control loop comprising the actual position of the elongated device from the linear position sensor and the first and second drive positions from the first and second position sensors.

16. (Original) The apparatus of claim 7 wherein the elongated device is a medical device.

17. (Original) The apparatus of claim 7 wherein the elongated device is a guide wire.

18. (Original) The apparatus of claim 7 wherein the elongated device is a catheter.

19-32. (Canceled)

33. (Currently Amended) A method comprising:

rotating a first main gear rotationally attached to a support and capable of being driven by a first drive;

rotating a second main gear being coaxial to the first main gear coaxially and rotationally attached to the first main gear, the second main gear geared to a roller drive gear and capable of being driven by a second drive;

engaging an elongated device along an axis of rotation of the elongated device in a linear drive, the linear drive coupled to the first main gear, such that when the first main gear is rotated, the elongated device is rotated about the elongated device's axis of rotation, the linear drive being geared to the roller drive gear, such that when the second main gear is rotated the linear drive imparts linear motion to the elongated device.

34-50. (Canceled)